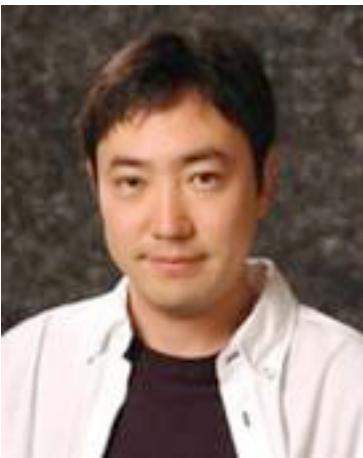


# KMI Colloquium

## “Quantum Mechanics, Gravity, and the Multiverse”



**Yasunori Nomura  
(UC Berkeley)**

**July 25, 2012 (Wed) 17:00 -  
KMI Science Symposia (ES635)**

### Abstract:

The discovery of the accelerating universe has led to the dramatic new view that our universe may be one of the many universes in which low energy physical laws take different forms: the multiverse. I explain why/how this view is supported both observationally and theoretically, especially by string theory and eternal inflation. I then describe how quantum mechanics plays a crucial role in understanding the multiverse, even at the largest distance scales. The resulting picture leads to a revolutionary change of our view on spacetime and gravity, and provides complete unification of the eternally inflating multiverse and the many worlds interpretation in quantum mechanics. The talk is based mainly on a series of work presented in arXiv:1104.2324, arXiv:1110.4630, and arXiv:1205.5550.